

YELLOWSTONE COUNTY SO₂ NAAQS IMPLEMENTATION

**Montana Department of Environmental Quality
Air Resources Management Bureau**

March 16, 2011

OVERVIEW

- ▣ **Initial Designation is the Focus**
 - Solicit input as we move forward toward designations
- ▣ **Ongoing Data Evaluation**
 - Data is primary basis for designation
- ▣ **Impacts / Consequences of Designation**
 - Attainment
 - Unclassifiable
 - Nonattainment
- ▣ **Outstanding Issues / Questions**

SO₂ NAAQS IMPLEMENTATION DATES AND MILESTONES

- ▣ **June 2011 – Governor Designations**
 - ▣ 1 year from final rule
 - ▣ 2008-2010 Design Value

- ▣ **June 2012 – EPA Designations**
 - ▣ 2 years from final rule
 - ▣ 2009-2011 Design Value

- ▣ **June 2013 – Maintenance/Infrastructure SIPs**
 - ▣ 3 years from final rule

- ▣ **February 2014 – Attainment Plans**
 - ▣ 18 months from EPA nonattainment designation

- ▣ **August 2017 – Attainment Date**
 - ▣ 5 years from EPA nonattainment designation

INITIAL DESIGNATION OPTIONS

▣ **Attainment**

- EPA “Unlikely for initial designations nationwide”

▣ **Unclassifiable**

- EPA “Most likely option for initial designations nationwide”

▣ **Nonattainment**

- Monitored non-compliance (2008-10 Design Value)

ONGOING AMBIENT MONITORING DATA EVALUATION

- ▣ **Billings/Laurel SO₂ Monitoring Network**
 - Data Evaluation Ongoing
 - Goal is Quality Data to make Designation
 - ▣ Confident in Data Quality (QA/QC)
 - ▣ Ongoing Critical Evaluation of Data

- ▣ **BLAQTC Independent Data Review**
 - Jim Parker – PPL Montana

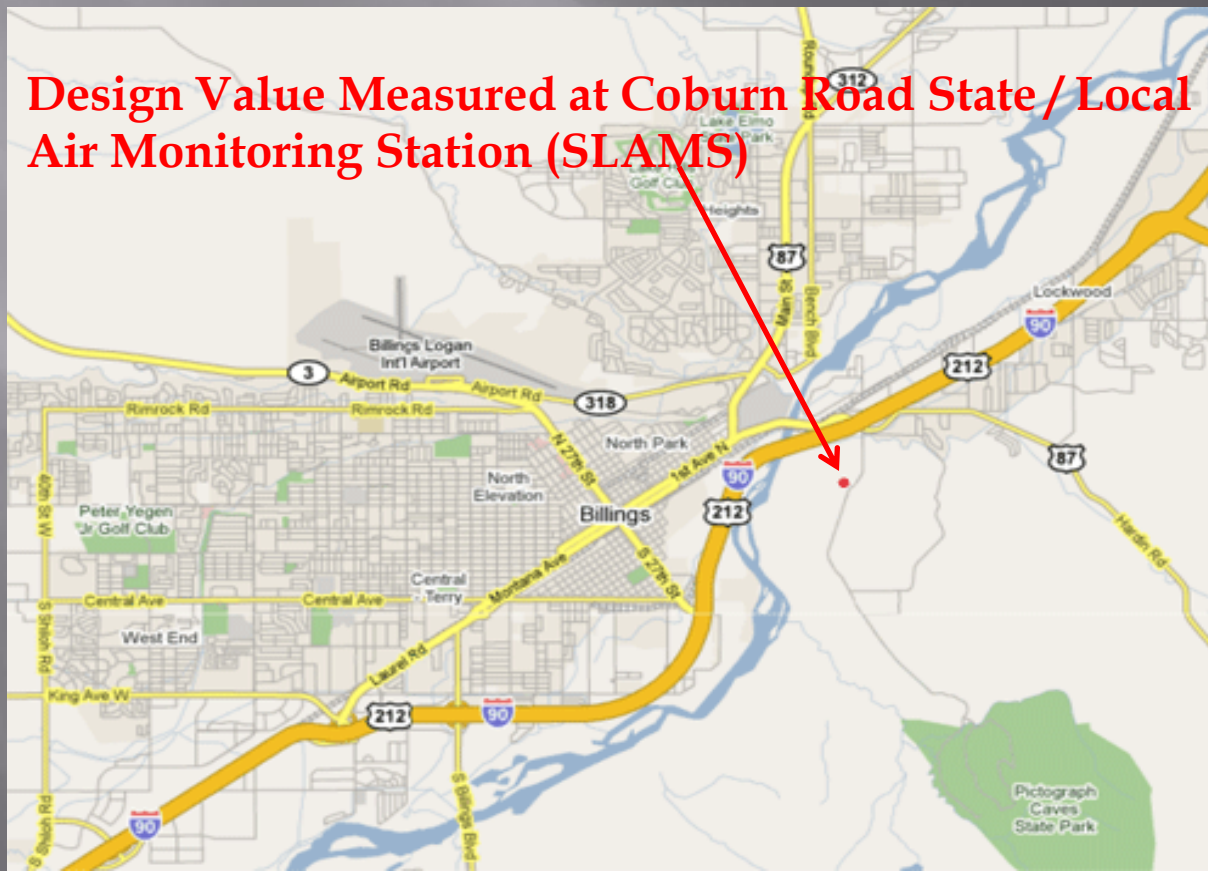
- ▣ **Designation Process**
 - Proceed with Available Information / Quality Data

DETERMINING NAAQS COMPLIANCE & DESIGNATIONS

- ▣ **Design Value** = A statistic describing the air quality status of a given area relative to the level of the NAAQS. Designations based on design value.
- ▣ **SO₂ Design Value** = Three year average of the 99th percentile of the annual distribution of the daily maximum 1-hour average concentration of SO₂ measured at a given monitoring station.

YELLOWSTONE COUNTY DESIGNATION STATUS

- ▣ Level of Revised SO₂ NAAQS = 75 ppb
- ▣ Yellowstone County Design Value = 84 ppb



REGULATIONS POTENTIALLY AFFECTING SO₂

- ❑ Boiler MACT (signed on 2/21/11, publication anticipated 3/11)
- ❑ Utility MACT (proposed anticipated 3/16/11 – today!)
- ❑ Billings/Laurel FIP (final unknown)
- ❑ Regional Haze (timeframe unknown)
- ❑ Others?

NONATTAINMENT AREA BOUNDARY DETERMINATION

- EPA Default is Yellowstone County Boundary



- Limited Geographic Boundary Determination
 - 9-Factor Analysis (EPA Guidance)

NONATTAINMENT AREA BOUNDARY DETERMINATION

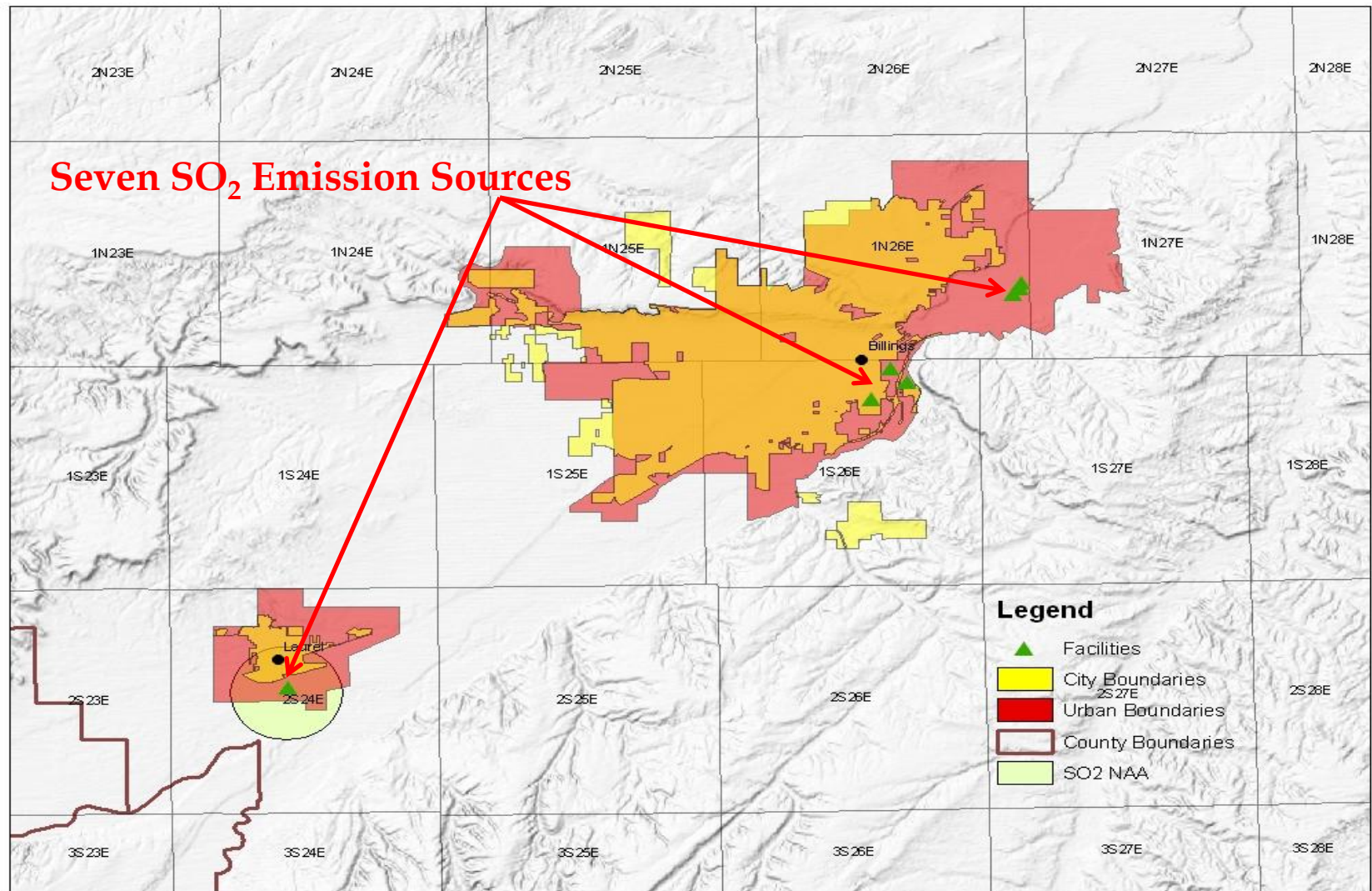
9-Factor Analysis*

1. Emission Data**
2. Air Quality Data**
3. Meteorology**
4. Geography/Topography**
5. Jurisdictional Boundaries**
6. Level of Emission Source Control**
7. Population Density / Urbanization
8. Growth Rates and Patterns
9. Traffic / Commuting Patterns

* 9-Factor Analysis for limiting geographic nonattainment boundary designations as described in various EPA NAAQS implementation memoranda

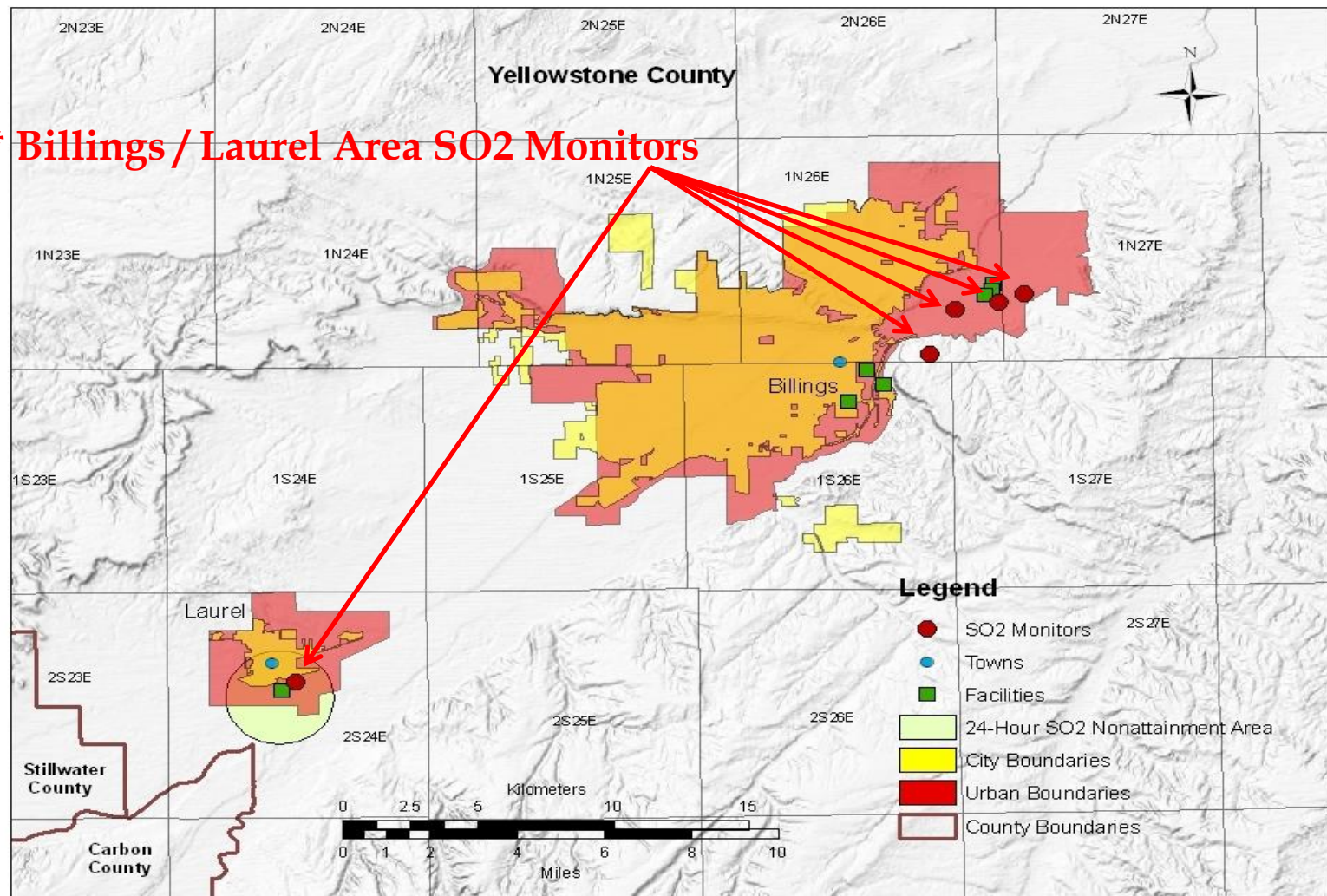
** 6-Factors Department believes are/ may be significant for SO₂ Boundary Determinations, EPA guidance pending

YELLOWSTONE COUNTY SO₂ EMISSION SOURCES



YELLOWSTONE COUNTY SO₂ MONITORING STATION LOCATIONS

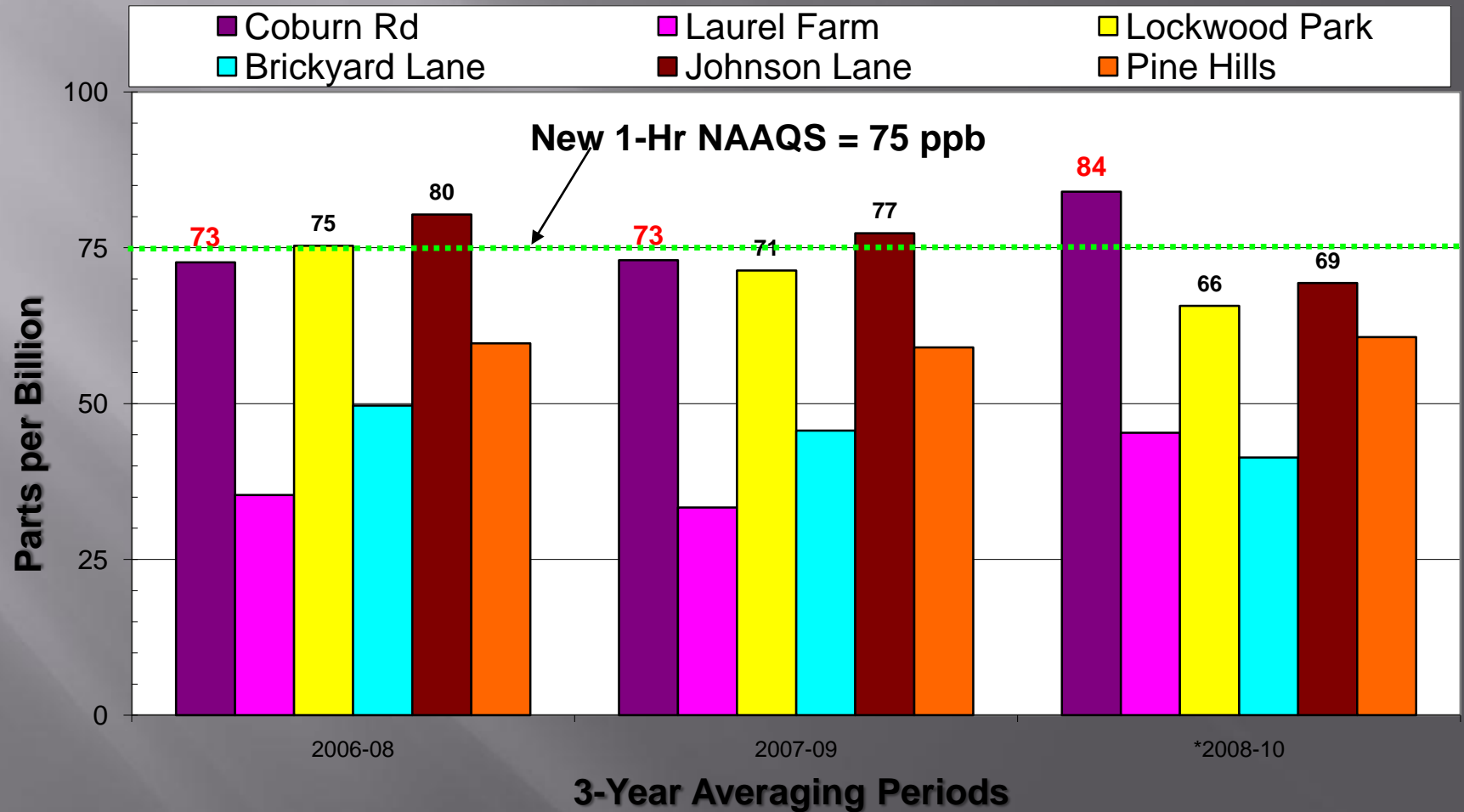
* Billings / Laurel Area SO₂ Monitors



YELLOWSTONE COUNTY SO₂ AIR QUALITY DATA

Draft 2006-2010 SO₂ 1-Hr 99th%tile

(*incomplete data set)



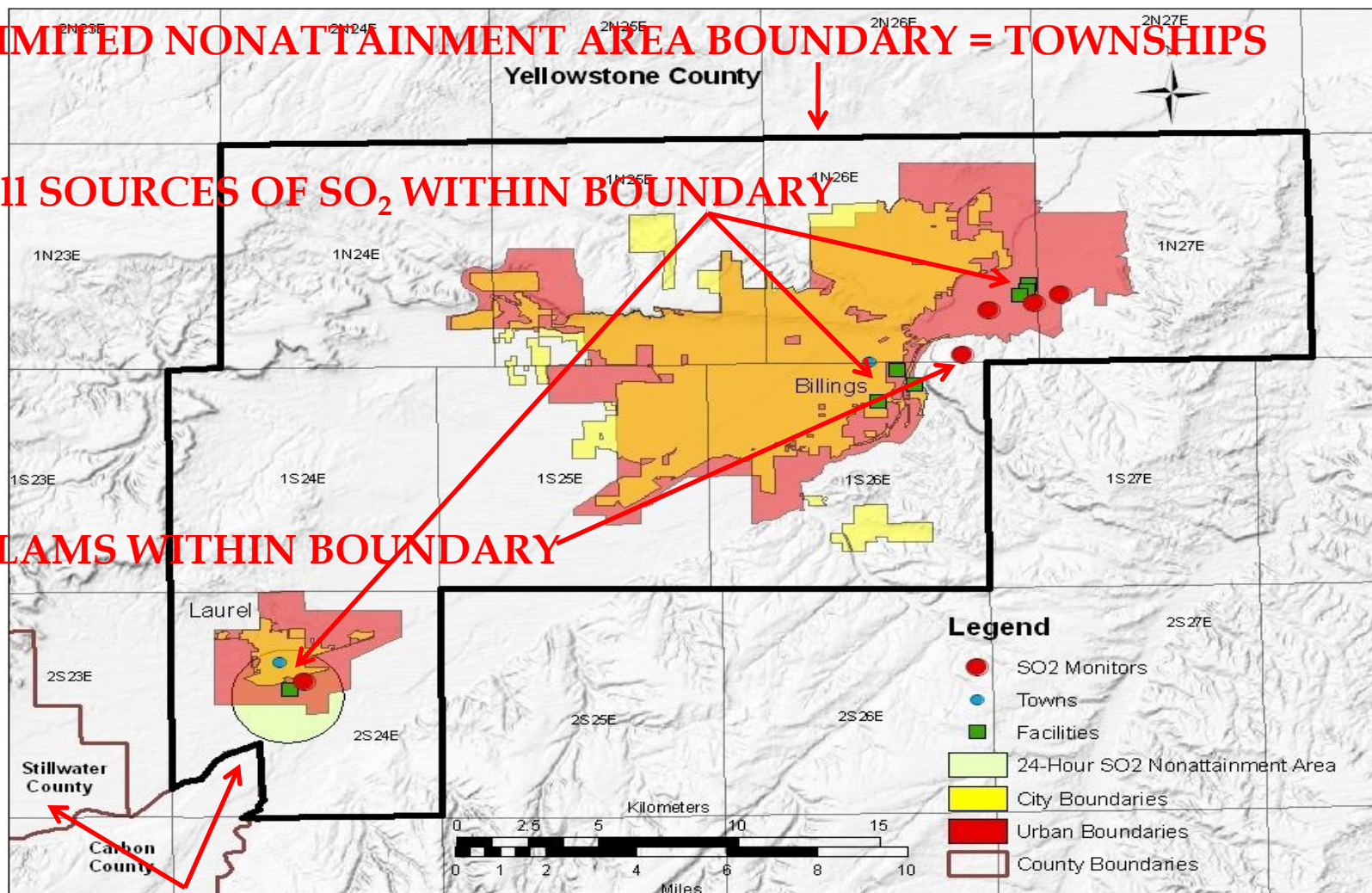
CONCEPTUAL NONATTAINMENT AREA BOUNDARY

* LIMITED NONATTAINMENT AREA BOUNDARY = TOWNSHIPS

* ALL SOURCES OF SO₂ WITHIN BOUNDARY

* SLAMS WITHIN BOUNDARY

* BOUNDARY DOES NOT INCLUDE CARBON OR STILLWATER COUNTIES



REGULATORY IMPLICATIONS OF THE NEW SO₂ STANDARD

Potential Consequences of
Nonattainment

NONATTAINMENT IMPLICATIONS

- Nonattainment Area New Source Review (NAA-NSR)
- Regulatory consequences of not developing a SIP

PERMITTING REQUIREMENTS UNDER A NONATTAINMENT DESIGNATION

- ▣ Nonattainment Area New Source Review (NAA-NSR)
 - Within NAA
 - ▣ New major SO₂ sources
 - ▣ Existing major sources with major modifications for SO₂
 - Outside of NAA but causing or contributing to a violation
 - ▣ Also new major SO₂ sources and existing major sources with major modifications for SO₂
 - ▣ Based on modeled significance levels

NAA-NSR PERMITTING REQUIREMENTS

- 100 tpy threshold applies to all sources (regardless of listed status)
- Lowest Achievable Emission Rate (LAER) applies
- Offsets required
- ▣ Applicant must certify that all other sources owned by applicant in the state comply with the FCAA and CAA of Montana
- ▣ Sources impacting visibility in Class I areas must be reviewed by FLMs

LAER

- ▣ More stringent than PSD BACT
- ▣ For that class/category of sources, LAER would be the most stringent emission limitation contained in any SIP or most stringent emission limitation achieved in practice
- ▣ Unlike BACT, LAER does not consider economic, energy, or other environmental factors

OFFSET REQUIREMENTS

- ▣ Must be obtained to offset any emissions increase
- ▣ Ratio of required emissions offset must be greater than 1
- ▣ Provide a “net air quality benefit” in the area affected by the proposed source
- ▣ Offsets must be creditable, quantifiable, federally enforceable, and permanent
- ▣ “Actual” emissions must be used

IF NONATTAINMENT WITHOUT A STATE PLAN

- ▣ NAA-NSR would apply with or without a state plan
- ▣ EPA would develop a FIP
 - Loss of state/stakeholder control and input
- ▣ Highway \$ Sanctions would apply
 - Safety projects, etc. may be excluded
- ▣ Offset requirements for permitting would change
 - From a minimum of 1:1 offset ratio to a minimum of 2:1

OUTSTANDING ISSUES / QUESTIONS

- ▣ **National Lawsuits Related to SO₂ NAAQS**
- ▣ **Existing Federal Implementation Plan for SO₂**
- ▣ **Federal Programs Impacting Implementation**
 - Regional Haze / BART
 - Utility MACT
 - Boiler MACT
- ▣ **Existing Laurel SO₂ Nonattainment Area**
 - Area compliance status under revised NAAQS?
- ▣ **Other?**

WHERE DO WE GO FROM HERE?

- ▣ **Department Finalize Recommendations**
 - By May 2011 (Recommendations to Governor)
 - Ongoing stakeholder input / process
 - Developing 9-Factor Analysis / limited NAA boundary (in case of nonattainment)
 - Work with Administration
 - Final stakeholder meeting?

IN SUMMARY

- ▣ Standard is 75 ppb
- ▣ Design Value is 84 ppb
- ▣ Outstanding Issues Remain
- ▣ Timing – June 2011 Designation
- ▣ Initial Designation is ???
 - Department Recommendation